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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,848	10/23/2003	Takeharu Yamamoto	10407-68US (A3039MT-US1)	6693
570 7590 10/31/2007 AKIN GUMP STRAUSS HAUER & FELD L.L.P. ONE COMMERCE SQUARE 2005 MARKET STREET, SUITE 2200 PHILADELPHIA, PA 19103			EXAMINER BIBBINS, LATANYA	
			ART UNIT 2627	PAPER NUMBER
			MAIL DATE 10/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/691,848

Applicant(s)

YAMAMOTO ET AL.

Examiner

LaTanya Bibbins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-19 is/are allowed.
- 6) ☒ Claim(s) 4-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 24, 2007 has been entered.
2. In the remarks filed on July 27, 2007, Applicant amended claim 4, cancelled claims 20-23, and submitted arguments for allowability of pending claims 4-19.

Response to Arguments

3. Applicant's arguments filed July 27, 2007, have been fully considered but they are not persuasive.

Regarding claims 4-7, Applicant argues that Araki et al. disclose a control signal C1, for the VCO, is based on the position of the actuator and the speed of the spindle motor and as such does not teach, suggest, or disclose changing the frequency of the clock signal according to a recording speed and/or reproduction speed when the converting section performs recording and/or reproduction as recited in amended claim

4.

Applicant also argues that Araki teaches that data is recorded at a constant density for a fixed linear speed of a track, resulting in a single fixed

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recording/reproducing speed of the data for all tracks. Applicant concludes that because Araki teaches changing the VCO frequency based on the position of the actuator and rotary speed of the spindle instead of the recording/reproduction speed of a track and because Araki operates at a fixed linear speed, Araki fails to anticipate amended claim 4.

Applicant's argument that Araki et al. teaches the control signal for the VCO is based on the speed of the spindle motor versus the recording and/or reproduction speed and therefore does not anticipate amended claim 4 is not persuasive. Examiner asserts that one of ordinary skill in the art at the time of the invention would have recognized that the rotational speed of the spindle motor is inherently directly related to the reproduction speed (i.e. the higher reading speed means the higher rotation speed of the spindle motor, and vice versa). Therefore, the control signal for the VCO is not only based on the speed of the spindle motor but it is inherently based on the reproduction speed as well.

Contrary to Applicant's assertion that Araki operates at a fixed linear speed, Araki teaches accessing a track of the disk before the rotating speed of the spindle motor is completely regulated (column 2 lines 28-32). More specifically, Araki et al. discloses an operation to access data on a disk where the reading operation is enabled before the speed is completely regulated (i.e. a variable frequency read operation or the optical disk driver as stated in column 4 lines 35-36). The CPU produces a control signal for a VCO based on the speed and the VCO generates a variable clock signal where the

frequency varies according to the control signal from the CPU (see the discussion in Col. 4 line 56 – Col. 5 line 2).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Araki et al. (U.S. Patent Number 6,009,056).**

Regarding claim 4, Araki discloses an optical disc device for emitting a light beam to an optical disc having a track for recording data (Col. 3, Lines 11-15), the optical disc device changing recording and reproducing speeds by changing a disc motor rotation, the optical disc device comprising:

a converting section which converts, into an electric signal, light reflected from the optical disc or light transmitted through the optical disc (Col. 3, Lines 13-14),

a focus actuator for moving a focus of the light beam perpendicularly to a data surface of the optical disc (Col. 2, Lines 41-44);

a tracking actuator for moving the light beam in a radius direction of the optical disc (Col. 2, Lines 41-44);

a control section which performs an operation according to the electric signal and generates a control signal for controlling the focus actuator so that the light beam keeps

a predetermined converging state on the data surface and controlling the tracking actuator so that the light beam is positioned at a center of the track (Col. 3, Lines 17-19; see *deviation and error* in Fig. 4);

and a variable clock output section for outputting a plurality of clock signals of different frequencies (Col. 4, Lines 65-67), wherein the variable clock output section changes a frequency of the clock signal according to a recording speed and/or a reproduction speed when the converting section performs recording and/or reproduction, and the control section performs an operation to be performed in synchronization with the clock signal of the variable clock output section (Col. 4, Lines 47-49; *regular signal reproduction*, Col. 4, Lines 56-64; *variable frequency read operation*, Col. 5, Lines 3-6).

Regarding claim 5, Araki discloses an input/output section which receives the electric signal converts the signal into a digital signal, outputs the signal to the control section, receives a control signal from the control section, converts the signal into an analog signal, and outputs the signal to the focus actuator and the tracking actuator (Col. 3, Lines 11-19; Col. 2, Lines 41-43; *focusing and tracking control systems*, Col. 7, Lines 46-47; see A/D and D/A converters in Fig. 4), wherein the input/output section has a constant operating clock regardless of the recording speed and/or the reproducing speed (Col. 6, Lines 61-65).

Regarding claim 6, Araki discloses the control section generates the control signal by transmitting the electric signal through a filter having a predetermined characteristic, and the characteristic of the filter is varied according to the recording

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speed and/or the reproducing speed (Col. 7, Lines 17-26; *synchronizing the clock signal*, Col: 7, Lines 32-36).

Regarding claim 7, Araki discloses the characteristic of the filter is determined by a filter coefficient and a frequency of the clock signal, and the filter coefficient is constant regardless of the recording speed and/or reproducing speed (Col. 7, Lines 17-26 and 44-46).

Allowable Subject Matter

6. **Claims 8-19** are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 8-13, none of the references of record, alone or in combination, suggest or fairly teach an optical disc controller for servo-controlling an optical head, a disc motor, and a light beam in an optical disc device comprising the disc motor and the optical head, the disc motor rotating an optical disc, the optical head emitting a light beam for recording data on the optical disc and/or reproducing data from the optical disc, the optical disc controller, comprising: **an interrupt signal generating section for generating an interrupt signal in each predetermined time period**, and a control section which receives an electric signal indicating a current state or a deviation from a target value from the optical head and the disc motor of the optical disc device and performs an operation according to the electric signal so as to obtain and output a control signal indicating a control amount, **wherein the control section**

performs the operation every time the interrupt signal is received from the interrupt signal generating section, and the control section stops operating and goes into a sleep mode at least for a predetermined time period between reception of the interrupt signal and reception of a subsequent interrupt signal in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

Regarding claims 14-19, none of the references of record, alone or in combination, suggest or fairly teach an optical disc device, comprising: an optical head which emits a light beam to an optical disc having a track for recording data, the optical head including a converting section which converts, into an electric signal, light reflected from the optical disc or light transmitted through the optical disc, a focus actuator for moving a focus of the light beam perpendicularly to a data surface of the optical disc, and a tracking actuator for moving the light beam in a radius direction of the optical disc, a disc motor for rotating the optical disc, **an interrupt signal generating section for generating an interrupt signal in each predetermined time period**, and a control section which receives a signal indicating a current state or a deviation from a target value from the optical head and the disc motor and performs an operation according to the electric signal so as to obtain and output a control signal indicating a control amount, **wherein the control section performs the operation every time the interrupt signal is received from the interrupt signal generating section, and the control section stops operating and goes into a sleep mode at least for a predetermined time period between reception of the interrupt signal and**

reception of a subsequent interrupt signal in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

Citation of Relevant Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Okada et al. (us 7,085,200) disclose a stepping motor controlling method for a disk driving apparatus.

Nabeshima et al. (US 4,623,994) disclose a scanning servos system for an optical disc reproduction apparatus.

Nagano et al. (US 4,907,214) disclose an eccentricity correction apparatus for an optical disk device.

Maeda (US 5,337,295) discloses a digital audio signal reproducing apparatus including a pause-key procedure for pausing an actuator.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571) 270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

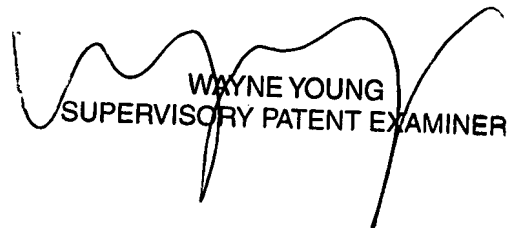
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



LaTanya Bibbins



WAYNE YOUNG
SUPERVISORY PATENT EXAMINER